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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ERWIN BAYER, BORIS GROHMAN,
FRANK HERMLE and PETER JAENKER

Appeal 2010-003285
Application 10/538,519
Technology Center 1700

Before TERRY J. OWENS, KAREN M. HASTINGS, and
MICHAEL P. COLAIANNI, *Administrative Patent Judges*.

OWENS, *Administrative Patent Judge*.

DECISION ON APPEAL¹

STATEMENT OF THE CASE

The Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 10-15, 20 and 21. Claims 1-9 have been canceled, claims 16 and 18 have been allowed and claims 17 and 19 have been

¹ The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, or for filing a request for rehearing, as recited in 37 C.F.R. § 41.52, begins to run from the "MAIL DATE" (paper delivery mode) or the "NOTIFICATION DATE" (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

withdrawn from consideration by the Examiner. We have jurisdiction under 35 U.S.C. § 6(b).

The Invention

The Appellants claim a friction-welding device. Claim 10 is illustrative:

10. A friction-welding device for integrally joining components, each component including a welding surface, comprising:

an oscillator adapted to generate a defined periodic movement of one of the components and the welding surface of the one of the components relative to another one of the components that is held statically during welding and to the welding surface of the another one of the components, the period movement including directions of movement parallel to the welding surfaces;

a compression device adapted to press the welding surfaces of the one of the components and the another one of the components against each other at a defined force; and

a cartridge adapted to accommodate the one of the components outside of a welding zone;

wherein the oscillator includes an even number of piezoactuators arranged in pairs at least approximately on a line of application, the piezoactuators prestressable with respect to the cartridge under pressure generation from opposite sides by piezoelectric liner [sic, linear] deformation, the piezoactuators displaceable with the cartridge and the one of the components synchronously oscillating at cartridge-side ends.

The References

Tsujino	6,299,051 B1	Oct. 9, 2001
Mattes	6,326,717 B1	Dec. 4, 2001
Culpepper	2003/0086748 A1	May 8, 2003
Stoecklein	6,617,766 B1	Sep. 9, 2003

The Rejections

The claims stand rejected under 35 U.S.C. § 103 as follows: claims 10-12, 14, 15, 20 and 21 over Tsujino in view of Mattes, and claim 13 over Tsujino in view of Mattes, Stoecklein and Culpepper.

OPINION

We reverse the rejections.

Issue

Have the Appellants indicated reversible error in the Examiner's determination that Tsujino would have rendered *prima facie* obvious, to one of ordinary skill in the art, 1) a cartridge or 2) piezoactuators arranged in pairs at least approximately on a line of application?²

Findings of Fact

Tsujino discloses a bonding head (4) (which the Examiner relies upon as corresponding to the Appellants' cartridge (Ans. 3)) which is placed on the upper surface (1b) of a sealing cap (1) (which is one of the components to be welded using ultrasonic coupling oscillation generated via horns (5, 6) by piezoelectric transducers (7, 8) coupled with the horns (5, 6)) (col. 3, ll. 41, 42, 55-63). The horns (5, 6) "are in an orthogonal direction to the welding head 4 in a plane and are coupled with the bonding head 4, mutually forming place angles of 90 degrees" (col. 3, ll. 37-40; Fig. 1).

Analysis

The Appellants argue that Tsujino's bonding head (4) is not a cartridge accommodating a component but, rather, merely applies

² The Examiner does not rely upon Mattes, Stoecklein or Culpepper for any disclosure that remedies the deficiency in Tsujino as to this issue (Ans. 4-5).

compressive force on the upper surface (1b) of the sealing cap (1) (Br. 4). The Appellants point out that the Examiner stated that “a cartridge is defined as ‘a case or container for holding a substrate’ (advisory action mailed February 25, 2009, p. 2), and the Appellants argue that Tsujino’s bonding head (4) is not a case or a container but, rather, “merely presents a flat surface that contacts upper face 1b of sealing cap 1” (Br. 4).

The Examiner argues that “[t]aken in its broadest reasonable interpretation, the bonding head of Tsujino is considered a cartridge because it *contains* the component by holding down and preventing movement of the component during welding” (Ans. 6).

“[D]uring examination proceedings, claims are given their broadest reasonable interpretation consistent with the specification.” *In re Translogic Tech. Inc.*, 504 F.3d 1249, 1256 (Fed. Cir. 2007), quoting *In re Hyatt*, 211 F.3d 1367, 1372 (Fed. Cir. 2000).

The Examiner has not carried the burden of establishing that the Examiner’s interpretation of the Appellants’ claim term “cartridge” is consistent with the Appellants’ Specification. The Appellants’ Specification states that “blade 3 is virtually completely encased in a mechanically sturdy cartridge 11” (Spec. 5:9-11; Fig. 1). The Examiner does not address that disclosure and explain why, in view of the Appellants’ exemplification of the cartridge as virtually completely encasing the component, the broadest reasonable interpretation of the Appellants’ claim term “cartridge” consistent with the Specification encompasses Tsujino’s bonding head (4) which merely presses against the component without encasing it.

The Appellants argue that Tsujino's "piezoelectric transducers 7, 8 are situated orthogonal to each other, and not in pairs approximately on a line of application" (Br. 4).

The Examiner provides a figure showing a line through piezoelectric transducer 7 in Tsujino's Figure 1 (Ans. 7) and argues that "the piezoactuators/elements 7, 8 of Tsujino are arranged in pairs (next to each other in an orgthogonal [sic] arrangement) approximately on a line of application" (Ans. 6).

The Appellants' Specification indicates that the line of application in the Appellants' claim phrase "piezoactuators arranged in pairs at least approximately on a line of application" is the line along which both of the transducers in the pair apply their force (Spec. 5:24-27; Fig. 2). The line added by the Examiner to Tsujino's Figure 1 is the line along which piezoelectric transducer 7 applies its force, but is not the line along which the other piezoelectric transducer in the pair (piezoelectric transducer 8) applies its force, which is orthogonal to piezoelectric transducer 7's line of force application (col. 3, ll. 38-40; Fig. 1).

Conclusion of Law

The Appellants have indicated reversible error in the Examiner's determination that Tsujino would have rendered *prima facie* obvious, to one of ordinary skill in the art, 1) a cartridge and 2) piezoactuators arranged in pairs at least approximately on a line of application.

DECISION/ORDER

The rejections under 35 U.S.C. § 103 of claims 10-12, 14, 15, 20 and 21 over Tsujino in view of Mattes, and claim 13 over Tsujino in view of Mattes, Stoecklein and Culpepper are reversed.

It is ordered that the Examiner's decision is reversed.

REVERSED

tc
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